

FACT SHEET

For renewal of National Pollutant Discharge Elimination System (NPDES) Permit No. WA0038075 issued by the Washington State Department of Ecology (Ecology) allowing discharge to waters of the state of Washington.

The purpose of this fact sheet is to explain the need for the discharge permit and the basis for its limitations and conditions.

I. GENERAL INFORMATION

A. Permittee

Mason County Department of Public Works
Mason County Courthouse
426 West Cedar Street
Post Office Box 357
Shelton, Washington 98584

B. Facility Name and Address

Rustlewood Wastewater Treatment Plant
East 111 Rustle Way
Grapeview, Washington
Approximately 10 miles Northeast of Shelton (Hwy 3 to Krabbenhof Road)

C. Type of Treatment

Rustlewood WWTP is a domestic wastewater treatment facility designed to meet federal secondary treatment standards via an extended aeration, activated sludge, package treatment plant.

D. Discharge Location

According to the Engineering Report, the outfall line extends from the treatment plant in a straight line eastward along the boat ramp into Puget Sound at Pickering Passage, approximately 750 feet from shore. The diffuser is located at a depth of approximately 23 feet (Latitude: 47° 16' 55" N; Longitude: 122° 55' 30" W). No as-built documents are available to verify the exact location of the outfall.

E. Public Notice Information

Ecology has tentatively determined to reissue a permit to discharge to the above listed applicant, subject to certain effluent limitations, which requires treatment facilities and other conditions necessary to carry out the provisions of state and federal law.

A press release was published on January 17, 1991, in *Shelton-Mason County Journal* to inform the public that an application had been submitted and to invite written and oral comments on Ecology's intent to reissue this permit.

Upon receipt of this fact sheet and accompanying draft permit, a second notice will be published by the Permittee to inform the public that a fact sheet and draft permit have been written and are available for review. Interested persons are invited to submit written comments regarding the proposed permit. The application and related documents are available for inspection and copying between the hours of 8:00 a.m. and 5:00 p.m. weekdays at the regional office listed below. Written comments should be routed to:

Water Quality Permit Coordinator
Department of the Department
Southwest Regional Office, Mail Stop LU-11
Olympia, Washington 98504-8711

If comments received indicate significant public interest, or if useful information should be produced thereby, Ecology may hold a public hearing on the application. Public notice regarding any hearing will be circulated at least thirty (30) days in advance of the hearing.

Ecology will consider all comments received within thirty (30) days from the date of public notice in formulating a final determination to issue, revise, or deny the permit. Ecology's response to all significant comments is available upon request.

Further information may be obtained from Ecology by telephone, (206) 586-5570, or by writing to the address listed above.

II. BACKGROUND INFORMATION

A. Description of Facility

The Rustlewood Wastewater Treatment plant was originally constructed in the early 1970s to accommodate a residential development with a projected ultimate population of approximately 560 people. There are no commercial or industrial users. The original installation was an extended aeration package plant, which would accommodate the initial, phase 1, development. The outfall was originally constructed to accommodate the ultimate design flow for the facility.

In the early 1980s, a second package unit designed to operate in parallel was added. Either unit may be isolated from the system by means of gate valves for periodic maintenance. The second unit is currently used as a sludge holding tank (aerobic digester unit). The existing facility was submitted to Ecology but is not marked approved. No as-built drawings have been located.

Approximately 60 homes are currently on the system. Forty (40) percent of them are served through conventional gravity sewers and 60 percent are served via the three lift stations in the community. The majority of new construction will be served by gravity sewer. There has been recent activity in developing additional home sites.

There is excessive infiltration and inflow (I/I) entering the system and increasing the hydraulic load of the facility by as much as 2,000 percent. This is above the capacity of the plant to effectively treat even if the plant were operated with both aeration basins as designed. The I/I source is believed to be from the individual home connections, which were apparently not inspected at the time of installation. A systematic plan for reduction of I/I is required.

The Rustlewood facility is classified as a Class I. The operator in responsible charge is certified at the Class II level and has one assistant. The operator is at the plant for 1-2 hours per day, Monday through Friday, and on an as-needed basis during the weekends. He remains on 24-hour call.

B. Sludge Treatment and Disposal

Sludge generated should be typical of an activated sludge facility with no industrial input. However, no historical data is available characterizing actual sludge quality.

Sludge is collected from the chlorine contact chamber, aeration basin, and holding tank approximately once a month via tanker truck and taken to Mason County Landfill. At the Landfill, the sludge is transferred to a private contractor's tanker truck (Solganics) who then treats the sludge via lime stabilization in accordance with federal requirements, and land applies the sludge to a permitted location in Lewis or Mason County. Since the existing sludge holding tank capacity is only 600 gallons, one aeration basin is currently used for additional on-site storage capacity. With continuing development of the Rustlewood plant, the aeration basin must be returned to its intended function, and the facility will need to provide an alternative method of sludge handling.

C. Description of the Receiving Water

Pickering Passage, Puget Sound, is designated by state Water Quality Standards, Chapter 173-201 Washington Administrative Code (WAC), as a Class A (excellent) marine receiving water in the vicinity of the outfall. The applicable receiving water quality standards (Chapter 173-201 WAC) are those adopted by Ecology and approved by the United States Environmental Protection Agency (EPA) Regional Administrator pursuant to Section 303 of the Clean Water Act. Characteristic uses include the following: water supply (domestic, industrial, agricultural), stock watering, fish migration, fish and shellfish rearing, spawning and harvesting, wildlife habitat, primary contact recreation, sport fishing, boating and aesthetic enjoyment, commerce, and navigation.

Surface tidal currents in Puget Sound indicate that water flow is from Case Inlet through Pickering Passage and primarily into and out of Hammersley Inlet and Oakland Bay. The ambient monitoring station located in Pickering Passage is sampled on a rotating basis. Monitoring data available between 1976 and 1987 provide the following information:

Parameter	Average	Range
Temperature (Celsius)	13.4	8.5-17.0
Dissolved Oxygen (mg/L)	9.1	5.2-11.6
pH	8.0	7.4-8.2
Salinity (ppt)	28.0	26.0-30.0
Ammonia as N (mg/L)	0.046	<0.01-0.33

Parameter	Average	Range
NO ₂ – N (mg/L)	0.01	<0.01-0.01
NO ₃ – N (mg/L)	0.104	<0.01-0.4
Phosphorus (mg/L)	0.048	0.01-0.1
Fecal Coliform (#/100 ml)	2	0-8
Turbidity (NTU)	2.0	1.0-4.0

Pickering Passage appears to have good tidal flow and mixing and has not been considered to be a particularly sensitive area of Puget Sound. However, both Oakland Bay and Case Inlet have historically shown nutrient related impacts (algae blooms) and subsequent oxygen depletion.

D. Description of Discharge

Secondary treated and chlorinated effluent is discharged from the facility into Pickering Passage via a 750-foot outfall line and terminal diffuser. Effluent is sampled at the end of the chlorine contact chamber and immediately prior to discharge to the outfall line.

The range of effluent quality reported to Ecology on monthly discharge monitoring reports (DMRs) during the last three years is summarized below:

Parameter	Average	Maximum
Flow	0.01-0.15 mgd	0.01-0.2 mgd
pH	Within a range of 6.7-8.0 standard units	
Dissolved Oxygen	3.9-6.5 mg/L	4.8-9.3 mg/L
Biochemical Oxygen Demand:		
Concentration	2.4-21.4 mg/L	4.0-43.5 mg/L
Mass loading	0.3-9.9 lbs/day	4.0-43.5 lbs/day
Percent removal	64.1-98.9%	88.5-99.7%
Total Suspended Solids:		
Concentration	1.0-21.1 mg/L	1.0-66.0 mg/L
Mass loading	0.07-19.9 lbs/day	0.07-54.0 lbs/day
Percent removal	63.8-99.0%	84.0-99.6%
Chlorine Residual	0.3-2.4 mg/L	0.5-4.6 mg/L
Fecal Coliform	0-276/100 ml	0-1800/100 ml

E. Compliance History

The current permit, issued on July 1, 1975, expired on May1, 1980, and has been administratively extended until the present. An application for renewal was submitted to and accepted by Ecology on January 7, 1991. The facility was last inspected during a joint routine inspection by Ecology's Water Quality Program and the Department of Health, Shellfish Protection Program on November 26, 1990. The inspection noted several minor items requiring immediate attention. According to Mason County Public Works, a bar screen has subsequently been installed at the inlet to the aeration basin. A flow meter will be installed soon.

As indicated in the description of the effluent above, the facility has had a history of difficulty complying with BOD and TSS percent removal permit requirements and with fecal coliform count. The problems appear related to hydraulic overloading at the

facility. For example, a severe storm event November 22-25, 1990, created overloading of the treatment plant resulting in violation of permit limitations for BOD, TSS, and most likely fecal coliform. The incident was reported and the plant was returned to compliance with all but the flow limitations as quickly as possible.

During the mid 1980s periodic plugging of a sewer line buried along the beach on the west side of Oyster Cove resulted in the discharge of raw sewage into Oyster Bay. Apparently the line shifted both horizontally and vertically due to the natural forces of the beach action. Mason County made several attempts to repair the line. In 1987, the County abandoned the line and installed two new duplex lift stations to convey sewage to the treatment plant. The lift stations had some operational difficulties during the first year of operation due to pump clogging and valve failures. These initial problems appear to have been resolved as Rustlewood had experienced only one or two problems with clogging of the grinder pumps during the last two years. However, these incidences have resulted in raw sewage overflows. Pump stations are in variance to Ecology's standard criteria and have not been formally approved. Ecology has requested that information be submitted.

The operator appears to have a good understanding of the treatment processes and the facility appears well operated and maintained within its limitations.

III. PERMIT CONDITIONS

A. Technical Basis for Effluent Limitations

1. Design Criteria

In accordance with WAC 173-220-130(1)(a), effluent limitations shall not be less stringent than those based upon the treatment facility design efficiency contained in approved engineering plans and reports or approved revisions thereto.

The design criteria for the permitted treatment facilities are as follows:

Monthly average design flow	0.055 mgd
Instantaneous peak flow	0.22 mgd
BOD influent loading	111 lbs/day
TSS influent loading	111 lbs/day
BOD/TSS removal efficiency	85%
Design population equivalent	556

2. Technology-Based Limits

As set forth in Chapter 173-221 WAC, discharge standards and effluent limitations for domestic wastewater facilities shall represent "all known, available, and reasonable methods of prevention, control, and treatment" when discharging to the waters of the state. To this end, Ecology has adopted specific numerical discharge standards (codified in Chapter 173-221 WAC) for domestic wastewater treatment facilities, which discharge to surface waters. The following technology-based limits are taken from 173-221 WAC:

- a. pH shall be within the range of 6 to 9 standard units.

b. Biochemical Oxygen Demand (5-day) and Total Suspended Solids:

Monthly Average limit is the most stringent of the following:

- 30 mg/L
- 13.8 lb/day
- Not exceeding fifteen percent (15%) of the influent concentration

Weekly Average – 45 mg/L (20.7 lb/day)

NOTE: Monthly average effluent mass loadings (lbs/day) for BOD & TSS were calculated as follows:

- 1) Average design flow (0.055 mgd) x Concentration limit (30 mg/L) x 8.34 (conversion factor) = mass limit (13.8 lbs/day).
- 2) Influent design loading (111 lbs/day) x 15% (85% removal) = mass limit (16.7 lbs/day).

The more stringent limit, 13.8 lbs/day, is used.

Weekly average effluent mass loading = 1.5 x monthly loading = 13.8 x 1.5 = 20.7 lbs/day.

c. Fecal Coliform Bacteria:

Monthly Geometric Mean – 200/100 ml

Weekly Geometric Mean – 400/100 ml

B. Water Quality Basis For effluent Limitations

In order to protect existing water quality and preserve the designated beneficial uses of Washington's receiving waters, Chapter 173-201-035 WAC states that waste discharge permits shall be conditioned to meet established water quality standards outside of an allotted dilution zone. Water quality standards are used to establish effluent limitations when they are more stringent or potentially more stringent than the technology-based limitations.

Numerical water quality standards listed under WAC 173-201-045 include fecal coliform, dissolved oxygen, total dissolved gas, temperature, and pH. Numerical criteria are also listed under WAC 173-201-047 for several toxic substances including metals, chlorine, ammonia, pesticides, and other organics.

In addition, descriptive water quality standards limiting acute and chronic toxicity, radioactivity, and other deleterious materials, and preserving the aesthetic value are included under WAC 173-201-045.

Water Quality-Based Limits:

Pollutants which are frequently present in secondary effluent include, but are not limited to chlorine, ammonia, nutrients, and heavy metals (cadmium, copper, lead, and zinc).

- a. Chlorine – Chlorination is used for disinfection of this discharge. To assure that water quality standards are not exceeded, total residual chlorine discharge is monitored in this permit. Since sufficient chlorine residual is needed to assure protection from bacterial contamination to shellfish beds in the area, and since the long outfall line, diffuser, and mixing zone should provide rapid dissipation of residual chlorine discharged, numerical limits are not established at this time. The following descriptive limitation is included in the permit:

Total available (residual) chlorine shall be minimized. Residual chlorine shall not exceed the amount required to achieve the fecal coliform limits specified.

- b. Ammonia – Extended aeration activated sludge treatment systems such as Rustlewood are designed for long aeration and high solids retention times which maintain a large population of nitrifying bacteria, effectively reducing the amount of ammonia discharged. Since ambient monitoring data indicates that ammonia levels have not been a problem in Pickering Passage, numerical effluent limits are not established at this time. However, since no data is available on the ammonia content in the Rustlewood discharge, the permit requires monitoring to verify the above assumptions.
- c. Nitrates – Ambient monitoring data indicates that nitrate levels occasionally fall below the level of detection of 0.01 mg/L in Pickering Passage. Although adjacent receiving waters Case Inlet and Oakland Bay appear to be nutrient-sensitive, Pickering Passage is not considered to be particularly nutrient sensitive and is not subject to low dissolved oxygen levels or other signs of eutrophication. The discharge from Rustlewood is small and is expected to be well-mixed and rapidly diluted. It is not likely to have a significant nutrient-related impact on water quality. Therefore, nutrient monitoring is not required in this permit.
- d. Metals – Since the collection system is relatively new, and water supply is from ground water sources (not excessively soft), it is not believed that significant quantities of metals are discharged from this facility. However, since no data is available to verify this assumption, the permit requires a minimal level of monitoring for those metals commonly found in municipal effluent (cadmium, copper, lead, and zinc).
- e. Whole Effluent Toxicity – Unidentified sources of toxicity are not expected to be present in potentially significant amounts in the effluent from this small domestic discharge. In accordance with the interim

biomonitoring policy, whole effluent, water column, and sediment toxicity testing are not considered necessary at this time.

This permit may be reopened or modified to impose numerical limitations if needed to meet water quality standards based on information obtained from effluent monitoring, outfall, and/or effluent mixing studies.

2. Dilution Zone:

A dilution zone has been allotted as provided for by WAC 173-201-035. This is a specified space in the receiving water adjacent to or surrounding the discharge point where water quality standards may be violated. Ecology policy will allow a dilution zone if the seven-day average low flow with a ten-year recurrence frequency (7Q10) is 100 times the proposed discharge flow rate.\

The dilution zone described in this permit is based on the dilution zone guidelines given in Chapter 25 of "Criteria for Sewage Works Design," Ecology publication No. DOE 78-5, and Water Quality Program No. 4 (9/87).

The zone is calculated as follows:

The limits in depth of the dilution zone shall be one foot below the surface to one foot above the bottom.

The length of the dilution zone with respect to the centerline of the diffuser shall be 150 feet plus the depth of the water above the diffuser at MLLW.

The width of the dilution zone shall be the length of the diffuser plus 100 feet plus the depth of the water above the diffuser.

C. Monitoring and Testing Schedule

Monitoring, recording, and reporting of this discharge is required in accordance with WAC 173-220-210 and RCW 90.48.650 to determine compliance with effluent limitations or to determine what effects the discharge may have on the waters of the state, the biota or sediments.

Monitoring of sludge quantity and quality is necessary and justified in order to gain the information, which will be required for the permitting of sludge generators and restrictions on sludge uses.

The monitoring and testing schedule is detailed in the permit under Condition S.2. Specified monitoring frequencies are based on a reasonable compromise considering the quantity of discharge, treatment method, significance of pollutants, and cost of monitoring.

Monitoring and testing is conducted at levels recommended in the September 1990 draft revision of the Ecology Permit Writer's Manual for package aeration plants with less than 0.1 mgd design flow. This level is considered to be the minimum level necessary to document compliance.

D. Prevention of Facility Overloading

Overloading at the treatment plant is a potential cause of inadequate treatment resulting in a discharge in violation of the terms and conditions of the permit. Chapter 90.48.110 RCW and 173-220-150 WAC require the permittee to take the actions detailed in the permit to plan necessary expansions or modifications before existing capacity is reached. Since the facility is reaching design capacity for its current mode of operation, and since it is hydraulically overloaded during storm events due to excessive I/I, an engineering report is required in this permit to study and correct this problem.

In addition, the permit requires Rustlewood to report and correct other conditions, which may result in a new or increased discharges of pollutants.

E. Operation and Maintenance (O&M)

These conditions, authorized under RCW 90.48.110, WAC 173-220-150, WAC 173-230, and WAC 173-240-080, are included to encourage proper operation, regular maintenance, and adequate safeguards so that constructed facilities are used to their optimum potential in terms of pollutant capture and treatment.

The permit requires submission and approval of an updated O&M manual for the entire sewage system including the three pump stations.

F. Residual Solids Handling

To prevent water quality problems occurring from the improper storage, handling or disposal of solid wastes, the Permittee is required to handle and dispose of all residual solids in accordance with the requirements of RCW 90.48.080, the jurisdictional health department, and Ecology approved management plan [WAC 173-240-060(3)(m)], state water quality standards (WAC 173-201), and applicable federal laws.

The permit requires submission and approval of a residual solids management plan. In addition, provisions for sludge handling and adequate storage capacity must be addressed as part of the Engineering Report mentioned above.

G. Effluent Mixing Study

Actual mixing characteristics of the discharge will be measured one time under conditions specified in the permit to assess whether assumptions made about dilution will protect the receiving water quality outside the allotted dilution zone boundary.

H. Outfall Evaluation

Since as-built drawings of outfall and diffuser have not been located and the integrity of the outfall has not been evaluated, the permit requires the Permittee to conduct an outfall inspection and submit a report detailing the findings of that inspection. The purpose of the inspection is to determine the exact location, condition of the discharge pipe and diffusers, and to evaluate the extent of

sediment accumulations in the vicinity of the outfall. A second outfall check is required prior to permit renewal.

I. Alarms

Since this facility discharges to shellfish waters or to primary recreation areas, reliance on residents to see visual alarms at pump stations or to notice that the treatment plant is not operating properly does not adequately protect the receiving water in the event of equipment malfunction. The Permittee is required to submit a plan and implementation schedule for the installation of an adequate alarm system for pump stations, the treatment plant, and chlorine supply equipment. Telemetry or telephone alarm systems will be required. The Permittee shall install the system as approved by Ecology.

J. General Conditions

General Conditions are based on state and federal regulations and have been standardized for all NPDES permits issued by Ecology to assure that these requirements are not omitted from the permit.

K. Permit Reopener

This permit includes specific statements and a General Condition reopener statement allowing Ecology to modify existing permit conditions and limitations or to establish new conditions or limitations based on monitoring results or other causes consistent with state and federal regulations.

IV. RECOMMENDATIONS

This permit includes those limitations and conditions believed necessary to protect human health and the waters of the state of Washington. We recommend that this permit be renewed for the maximum five-year term.

V. REFERENCES

Ambient Monitoring Data for Pickering Passage near Harstene Island. 1976-87. Environmental Investigations Section, Department of Ecology.

Delta Engineering, Inc., Engineering Report on Domestic Waste Treatment and Disposal for Rustlewood, April 27, 1990.

Mason County P.U.D., Operation and Maintenance Manual – Rustlewood Sewage Treatment Plant, October 1982.

McGary, Noel and Lincoln, John H., Tide Prints – Surface Tidal Currents in Puget Sound., University of Washington Press, Seattle and London.

Parametrix, Inc., Plans and Specifications for Additions to Sewage Treatment Facilities Rustlewood Subdivision, April 1980.

PTI Environmental Services, Nutrients and Phytoplankton in Puget Sound, EPA Contract Study, November 1990, DRAFT.

Skillings and chamberlain, Inc. Rustlewood Sewer System Report, November 1987.

Sillings and Chamberlain, Inc. As-Built Rustlewood Sanitary Sewer Repair, January 1988.

Tetra Tech, Inc. Characterization of Spatial and Temporal Trends in Water Quality in Puget Sound, EPA Contract Final Report, July 1988.

Thornton, William G. and Associates, Rustlewood Sewage Treatment Facilities, Plans and Specifications, March 1973.

Thrnnton, William G. and Associates, Engineering Report on Sewage Collection, Treatment, and Disposal for Rustlewood, October 26, 1970.

WPCF, Operation of Extended Aeration Package Plants, Manual of Practice OM-7, 1985.

Personal Communications:

Hickey, Roger, Solganic Services 1/91

Meriwether, Frank, Department of Health, Shellfish Protection 11/90

Moore, Tom, Operator, Rustlewood STP 11/90-1/91

O'Brien, Ed, Water Quality Program, Department of Ecology 1/91

Yando, Gary, Utilities Administrator, Mason County Public Works 12/90-1/1

May 29, 11
ADDENDUM TO FACT SHEET

RESPONSE TO WRITTEN COMMENTS REGARDING DRAFT NPDES PERMIT NO. WA0038075
FOR THE RUSTLEWOOD WASTEWATER TREATMENT PLANT

COMMENTS FROM:

1. MASON COUNTY DEPARTMENT OF PUBLIC WORKS – dated March 19; received March 22, 1991, and at meeting held April 24, 1991.
2. DEPARTMENT OF HEALTH – SHELLFISH PROGRAM – dated March 28, received March 29, 1991.
3. You have chosen not to require a numerical limitation on chlorine in this permit. The descriptive limitation in the permit does not establish any clear standard or goal by which to evaluate performance. Excess chlorine is lethal to aquatic organisms and it may be a factor in the production of chlorinated hydrocarbons which can have sub lethal and chronic effects. Ecology has taken the position before that chlorine residual around 0.5 mg/L may be acceptable, yet in this case, the Permittee has regularly reported chlorine residual values significantly above this level. It would be a responsible approach to quantify what a minimized discharge would be by establishing a numerical limit (Squaxin).

Response: Effluent limitations are set to meet the state and federal secondary treatment standards and water quality standards (Chapters 173-201 and 173-221 WAC). These limitations already take into account the variability in day-to-day operation, measurement, and laboratory analysis. Discharge of wastewater is considered a privilege and is subject to the ability to consistently meet these limitations. Rustlewood's intention to meet these limitations is noted; the Permittee's compliance history is summarized in the fact sheet.

Although chlorine can be toxic to aquatic organisms, this discharge is relatively small and is believed to have rapid mixing with the receiving water. We do not anticipate that responsible use would violate water quality standards. This assumption will be verified through the outfall study and modeling of effluent mixing. When this information is available it will be possible to establish an appropriate chlorine limit, if necessary, to protect the receiving water.

Since the Permittee discharges into shellfish waters, it is important to assure that adequate disinfection is provided for the protection of human health. To place a numerical chlorine limit on this discharge without information on receiving water mixing is arbitrary and may result in insufficient disinfection. The narrative limit requires the Permittee to act responsible in limiting the amount of chlorine used while simultaneously assuring that disinfection is sufficient to protect human health in shellfish areas. No change.

Reference page 6 of 18 – Condition S2 – Monitoring Schedule – Chlorine

1. Per your request, our field operator has been performing daily (seven days a week) monitoring for chlorine residual and chlorine usage. Previously, these tests were performed five days a week.

Ecology would like to return to five days a week coverage. The current schedule requires we pay our worker time and a half on Saturday and Sunday. This places an additional financial burden on the community system. If we must test on the weekends, could a resident perform the testing? (Mason County)

2. We agree that chlorine residual and usage should be monitored seven days per week, as is indicated in the existing (previous) permit. Also, the “sample type” for chlorine residual should be by grab sample (DOH).

Response: Pickering Passage is a shellfish grown and harvesting area, as well as an area of primary and secondary contact recreation. Daily monitoring for flows above 20,000 gpd is a condition of the existing permit and should have been provided prior to Ecology’s reminder during the 1990 inspection. Daily monitoring of chlorine residual is used as an indicator that the disinfection system is functioning properly. Adequate disinfection is considered necessary for the protection of human health and excessive chlorine discharge is toxic to aquatic life. Discharge is considered a privilege; compliance is verified through facility monitoring.

A properly trained resident could perform the required testing on weekends. Detailed steps for performing the analysis, including procedures for obtaining guidance from the treatment plant operator to correct any problems, and retesting to assure that plant is operating correctly must be included in the facility Operations and Maintenance Manual.

Changes: Chlorine residual should be measured by grab sample, not report as indicated in the draft permit. This typographical error has been corrected.

Reference page 6 of 18 – Condition S2 – Monitoring Schedule – Composites

There is no appropriate sampling point for influent composites during storm events. The sampler line is placed in the influent piping and works well during normal flows, but is washed out at high flows (Mason County).

We have only one composite sampler for this facility. How do we handle both influent and effluent composites? (Mason County)

Response: Both influent and effluent composite sampling are required to determine the effectiveness of treatment. Twenty-four composite samples are needed and should be taken on the same day to assure measure treatment plant efficiency. A second composite sampler needs to be obtained as soon as possible and the influent sampling point should be evaluated as part of this facility’s engineering report. The permit requires representative sampling and this includes some weekend sampling of influent and effluent. Until the composite sampler is obtained, Rustlewood should use the 24-hour composite sampler on the influent one day, and on the effluent the following day. If influent composites cannot be obtained during the automatic compositor, hand composite samples of equal hourly aliquots must be taken for at least eight consecutive hours including the time period of peak daily flows. Procedures for hand compositing of influent samples during storm events must be included in the Operation and Maintenance Manual for this facility.

Changes: Evaluation of an appropriate influent smpling point is added to the engineering requirements for this facility.

Reference page 6 of 18 – Condition S2 – Monitoring Schedule – Nitrogen

Through Pickering Passage itself appears to mix fairly well the water bodies that it connects have both demonstrated occasional water quality problems including nutrient sensitivity. In addition, the residence period for water in southern Puget Sound suggests that any loadings of water quality parameters must be absorbed within South Sound as there is not sufficient transport seaward. For these reasons, we believe that it is prudent to establish effluent limits and monitoring requirements for both ammonia and nitrates. Since these parameters are related, it appears hard to justify the monitoring of one and not the other.

Response: Effluent limitations and monitoring requirements are established based on potential to pollute. As documented in the fact sheet, at this time, nutrients discharge into Pickering Passage are not considered “pollutants.”

The permit requires ammonia monitoring based on water quality toxicity criteria. Monitoring is justified to verify the assumption that the ammonia concentration discharged does not have the potential to violate water quality toxicity criteria outside of an authorized mixing zone.

Reference page 6 of 18 – Condition S2 – Monitoring Schedule – Sediments

The permit should be conditioned to reflect the adoption of Ecology’s Sediment Management Standards (WAC Chapter 173-204). The permit should contain provisions for testing and monitoring of sediments that could be potentially impacted by the discharge.

Ecology’s Industrial Section already includes language in NPDES permits to address the new monitoring provisions required under the Sediments Management Standards. Ecology should maintain consistency among programs that issue NPDES permits when dealing with the implementation of the new rule (DNR).

Response: Sediment monitoring is required for those facilities that have a potential for violating sediment standards. This is primarily industrial facilities, municipal facilities with industrial users, and larger municipalities. This small, domestic discharger is not expected to significantly impact sediments. The effluent monitoring and outfall studies required in the permit should be sufficient to verify this assumption. If data indicates a potential to violate, sediment quality standards outside of an authorized impact zone, this permit may be reopened and modified to include sediment monitoring. No change to permit required.

Reference page 7 – Conditions S3 – Reporting Shellfish Protection

1. Request you provide an explanation of – immediately (Mason County).
2. Thank you for the inclusion of the shellfish notification clause (DOH).

Response: Immediately means without delay and is necessary to prevent human health hazards from the consumption of contaminated shellfish.

Changes: This section of the permit has been rewritten to clarify our intent. The following will replace the current wording:

Reporting Shellfish Protection Areas

Unauthorized discharges, including (but not limited to) collection system overflows, plant bypasses, or failure of the disinfection system, shall be reported immediately. For purposes of this section, the reporting requirement shall consist of both:

- 1) Notification of the following organizations:
 - (a) Ecology (see General Condition G4), Southwest Regional Office, Water Quality Inspector at (360) 407-6281 or at the 24-hour Emergency Spill Response Number (360) 407-6300; AND
 - (b) Department of Health, Shellfish Program, at (360) 753-5992. For after hour events, report at the start of business the next work day.
- 2) Notification to the public:
 - (a) Posting of notices of treatment plant upsets in areas of public access.
 - (b) Notification of local news media (television, radio, or daily newspapers) for public service announcements.

Reference to page 8 – Condition S3F – Flow Measurement

This department is currently researching these devices and will be providing you with three for your approval (Mason County).

Response: Flow measurement is required. Ecology acknowledges Mason County's intent to comply. This permit condition is included to assure that appropriate flow measurement devices are selected in a timely fashion and installed, calibrated, and maintained in accordance with the "Criteria of Sewage Works Design" and accepted scientific and engineering practices. No change.

Reference to page 9 – Condition S4D – Infiltration and Inflow

1. What is specifically meant by "Commit Substantial Resources?" We need to remember this is a community system serving 81 lots at this point, and that it is self-supporting. Doing the I/I Reduction Program is expensive. We believe that infiltration is a major factor and that the system will require rehabilitation. Are funds going to be appropriated through the state? We cannot accomplish the engineering report by the March 1992 deadline (Mason County).
2. We agree that the I/I problem at the STP is excessive, and needs to be addressed/reduced as soon as practical (DOH).
3. The Tribe strongly encourages the adoption of a strict compliance schedule for I/I reduction. This factor has an obvious relation to the chronic discharge violations of this facility (Squaxin).

Response: The Rustlewood treatment plant is hydraulically overloaded resulting in failure to comply with secondary treatment requirements during storm events, primarily due to excessive I/I entering the system. This I/I must be eliminated to provide the level of wastewater treatment to permit this discharge. "Commit substantial resources" indicates Ecology's recognition that I/I reduction can become expensive. Rustlewood is to investigate its I/I problems in a comprehensive manner, identify priorities, and budget for implementation

of the needed corrective actions. Ecology cannot guarantee funding for this project. We encourage Mason County and Rustlewood to pursue all possible avenues of funding.

Changes: Recognizing that Rustlewood will require time to budget for these improvements, the permit has been revised to split the I/I reduction plan into two phases. Initial scooping of the problem, wet weather and dry weather testing, removal of inflow sources, and other corrective actions that can be implemented are required during the first year of this permit. The deadline for submission of the more comprehensive engineering report is extended to May 1, 1993.

Reference page 10 – Condition S4E – Annual Assessment

We request that the frequency and cause of any raw sewage overflows specifically be included in the Annual Assessment Report (DOH).

Response: Raw sewage overflow reporting is specifically mentioned on the report form and is also covered under the shellfish notification clause and under Condition G4, non-compliance notification. It is included as one of several possibilities under noncompliance with effluent limitations in their permit. No change.

Reference page 10 – Conditions S5A – Certified Operator

1. Responsible charge as written does not mean hands on. What do you mean by all shifts when operational changes are made (Mason County)?
2. As currently operated, Rustlewood is a Class 2 facility. A Class 2 operator must be in responsible charge and a Class 1 operator is required whenever operational changes are made to the facility (Ecology).

Response: This wording is cumbersome as it is used to include all municipal facilities with changes only in the level of certification required. Since Rustlewood is not staffed on shifts, some of the language does not specifically apply.

As currently operated with an aerobic digester unit, Rustlewood now ranks as a Class 2 facility. A Class 2 operator must be in responsible charge and a Class 1 operator is needed whenever operational changes are made to this facility. For specific and routine processes, such as sampling for chlorine residual on weekends, it may be possible to train a resident as mentioned under monitoring requirements above. The scope of the resident's responsibility must be specifically defined in an approved Operations and Maintenance Manual.

Changes: Permit is modified to read that a Class 2 operator must be in responsible charge and that a Class 1 operator is needed whenever operational changes are made to this facility.

Reference page 10 – Condition S5C – Operations and Maintenance Program

We are in the process of preparing an Operation and Maintenance (O&M) program for the entire sewage system (Mason County).

Response: Ecology acknowledges Rustlewood's intent to comply. Please note that an updated O&M Manual is needed to reflect actual procedures at the treatment plant. No change to permit.

Reference page 12 – Conditions S7A & C – Residual Solids

What is meant by these two sections? Does this eliminate the sludge for ground disposal (Mason County)?

Response: These statements are included to ensure the proper handling of solid wastes and to avoid pollution of waters of the state; they are not meant to eliminate beneficial application of sludges in accordance with federal law and local health ordinances. No change to permit.

Reference page 13 – Condition S8 – Pretreatment

Is this section to be interpreted to include septic tank sludge? Also, we do not allow any commercial or industrial facilities to discharge to this treatment plant. Please delete the word significant (Mason County).

Response: The section includes septic tank sludge although Ecology does not understand the reason for your question. Why would septic tank sludge be considered for discharge to this treatment plant? The conditions are in the permit to assure that commercial and industrial facilities do not discharge to this facility and that all discharges comply with federal and state pretreatment requirements. Removal of the word significant makes the requirement more stringent.

Change: Delete the word "Significant" in the phrase "Significant commercial and industrial"... are prohibited.

Reference pages 13 & 14 – Condition S9A & B – Effluent Mixing

This community system has a small discharge. Are these requirements really necessary (Mason County)?

Response: Information about the receiving water, the outfall, and effluent mixing are required to assure that water quality standards are met. If sufficient information is obtained regarding the outfall and diffuser, it may be possible to estimate that sufficient mixing occurs through computer modeling. Furthermore, Ecology may be able to do this modeling for the Permittee.

Changes: This permit is modified to include computer modeling as an alternative under Condition S9, to state that if the modeling is performed by Ecology that it may be used to fulfill this requirement, and to extend the deadline for this study to allow time to obtain the information needed to run the computer model for the Rustlewood outfall.

Reference page 14 – Condition S10 – Outfall Evaluation

1. We concur with the need for a visual inspection of the outfall (DOH).
2. It is not clear what is meant by evaluation of apparent impacts of the discharge on sediment and marine organisms under S10. How will this evaluation be accomplished and interpreted? What standards will be used to analyze results? What does it mean to say additional monitoring may be

required based on unacceptably impacting sediments? This section of the permit needs clarification.

Response: There are several firms that conduct these underwater outfall studies. Outfall inspection is needed to determine the exact location and the integrity of the STP outfall and to evaluate the area surrounding the outfall for visible accumulation of sediment or other obvious impacts of the discharge. The evaluation will be done by the driver survey with photographic verification, if possible. The report is submitted to Ecology.

Reference page 14 – Condition S11 – Alarm System

1. Telemetry systems are expensive. Are they really necessary for this small discharger? What is meant by continuously manned? What are the minimum requirements (Mason County)?
2. We heartily endorse the inclusion of the Alarm System conditions, which abide by required federal criteria for the protection of shellfish waters from STP/collection system discharges (DOH).

Response: The U.S. EPA Technical Bulletin – Design Criteria for Mechanical, Electric, and Fluid Systems and Component Reliability states in part that “alarms and annunciators shall be provided to monitor the condition of equipment whose failure could result in a controlled diversion or a violation of effluent limitations...damage to vital equipment or hazards to personnel...” Treatment works not continuously manned shall have the alarm signals transmitted to a point, which is continuously manned such as a police or fire station. Continuously manned means a point with someone available to respond to the alarm 24 hours a day, seven days per week. An auto dialer system could also be used. At a minimum, high water levels at the three lift stations, power outage at the treatment plant, aerators out, high water level at the chlorine feed sump or other point measuring functioning of the disinfection system, and telemetry out alarms are needed. The system should be designed for future addition of more alarms. No change to permit is required.

Reference page 18 – Condition G12 – Other Requirements of 40 CFR

A copy of these requirements needs to be attached (Mason County).

Response: These lengthy regulations are incorporated by reference so that they do not have to be repeated in the permit. Copies of the federal regulations are readily available. No change to permit.

Reference page 18 – Condition G14 – Additional Monitoring

Who pays for these specific monitoring requirements (Mason County)?

Response: The Permittee would pay the costs of monitoring. Additional monitoring requirements must be justified and would be established based on potential to pollute. It remains the responsibility of the Permittee to demonstrate that the discharge does not violate water quality standards. Any monitoring requirements contained in permit modification and/or administrative orders are, like the permit, subject to the appeal process.

GENERAL AND FACT SHEET COMMENTS:

1. Per our meeting, the as-built drawings (Pump Station) are being corrected. Upon receipt, you will be forwarded a copy (Mason County).

Response: Plans received April 1, 1991.

2. Where did the 2000 percent come from? This operator is at the plant a minimum of 1-2 hours per day. Some days he is there a considerable amount of time (Mason County).

Response: 2000 percent increase in loading is based on the average weekday dry weather flow 9,000 gpd and the estimated storm event flow of 180,000 gpd. We understand that some days the operator is at the facility for longer periods of time. The numbers and hours used in this fact sheet were provided by your operator during our November 26, 1990, inspection of the facility.

3. What alternative methods (for sludge treatment and disposal) are we talking about (Mason County)?

Response: There are several possibilities such as construction of additional on-site storage capacity or more frequent hauling. As stated in the fact sheet, Rustlewood needs to propose a plan to obtain both adequate wastewater treatment and sludge handling, treatment, and disposal.

4. What is the significance of Oakland Bay and Case Inlet as it related to Rustlewood? What does Case Inlet and Oakland Bay have to do with this permit (Mason County)?

Response: As stated in the fact sheet, water discharged into Pickering Passage travels in and out of Oakland Bay and Case Inlet. Both of these areas are nutrient sensitive. Thus, the potential for effluent from Rustlewood to impact these areas must be addressed. As stated in the fact sheet, we expect that there will be limited impact since the effluent should be well mixed and rapidly diluted prior to reaching these critical areas.

5. The Rustlewood facility has had a variety of problems over the years. These problems have ranged from violations of permit limitations to the discharge of raw sewage. Due to the impacts that these incidents can have on the Tribe's fish and shellfish resources, it is felt that there should be a great deal of scrutiny applied in the issuance of this permit.

The Tribe is pleased to see that Ecology is finally upgrading this permit after 11 years. It would appear, however, that should the permit have been reviewed on a regular schedule as required by law, many of the new permit requirements would already have been implemented. Because they have not, and water quality in the area have suffered, we feel it is perfectly appropriate to strictly enforce the provisions of the Clean Water Act at this time (Squaxin Tribe).

Response: Comment Acknowledged. As stated in the fact sheet, the permit includes those conditions and limitations believed necessary to protect both human health and the waters of the state of Washington. Failure to comply with the terms and conditions of this permit may result in formal enforcement action.

6. The Squaxin Island Tribe wishes to query the Department of Ecology on the issuance of the permit to a Permittee that has a blemished record of compliance on the other permits. Are

permits issued singly without regards to other permits held by the same Permittee? Does Ecology take into consideration past record of compliance either on the permit in question, or any other permit held by the applicant when making its decisions? Does a current lack of compliance have any bearing on the issuance of another permit, either for the same facility or a different one?

Response: It is the public policy of the state of Washington to maintain the highest possible standards to ensure the purity of all waters of the state consistent with public health and public enjoyment thereof, the propagation and protection of wild life, birds, game, fish, and other aquatic life and the industrial development of the state, and to that end require the use of all known, available, and reasonable methods to prevent and control pollution of the waters of the state of Washington. Consistent with this policy, the state of Washington will exercise its powers, as fully and as effectively as possible, to retain and secure high quality for all waters of the state (RCW 90.48.010).

Ecology shall issue a permit unless it finds that the disposal of waste material as proposed in the application will pollute the waters of the state in violation of the public policy declared in RCW 90.48.010 (RCW 90.48.180).

7. Would you please provide me with a copy of Ecology's Interim Biomonitoring Policy (Squaxin Tribe).

Response: Your request has been forwarded to the Water Quality Point Source Section. They can provide you with the requested information.